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Objectives of Financial Statements

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A Test of the Feasibility of Preparing Exit-Value Accounting Statements

James C. McKeown

Although the usefulness of exit-value information for accounting statement readers has been advanced, and defended against theoretical arguments,¹ very little empirical research has been done to examine the difficulties encountered in preparing accounting statements based upon exit values.² This almost total lack of evidence of feasibility has provided little response to the criticism that an accounting system based upon exit-value information is

¹ The principal proponent has been R. J. Chambers in his *Accounting Evaluation and Economic Behavior* (Prentice-Hall, Inc., 1966), and responses to comments by—Larson and Schattke ("Current Cash Equivalent, Additivity and Financial Action," *The Accounting Review*, October 1966, pp. 634-41), response R. J. Chambers, "Continuously Contemporary Accounting—Additivity and Action," *The Accounting Review*, October 1967, pp. 751-7; George Staubus ("Current Cash Equivalent for Assets: A Dissent," *The Accounting Review*, October 1967, pp. 650-61), response R. J. Chambers, "Measures and Values," *The Accounting Review*, April 1968, pp. 239-47; and separate papers by Iselin, Solomons, Dein, Hendriksen, and Thomas, response R. J. Chambers, "Second Thoughts on Continuously Contemporary Accounting," *Abacus*, September 1970, pp. 39-50.

² The only attempt at preparation of a complete set of accounting statements on the exit-value basis is reported in James C. McKeown, "An Empirical Test of a Model Proposed by Chambers," *The Accounting Review*, January 1971, pp. 12-29. Other researchers have examined the availability of resale prices in specific markets: George J. Foster, "Mining Inventories in a Current Price Accounting System," *Abacus*, December 1969; Daniel L. McDonald, "Feasibility Criteria for the Measurement of Long-Lived Assets with Test Application to Automobiles" (unpublished Ph.D. dissertation, Stanford University, 1967).

impractical.³ The study reported here was undertaken to examine the difficulties encountered when preparing exit-value statements for a company engaged in a different type of business than those examined in previous studies. The results of this study will neither prove nor disprove the general feasibility of preparation of exit-value accounting statements, but rather will provide additional evidence toward the accumulation necessary to make a judgment as to general feasibility.

Two revised balance sheets and the income statement for the intervening year were prepared on an exit-value basis. The statements were prepared with information available before May 1, 1972, since that would be the normal time of preparation of statements covering the year ended December 31, 1971. The assets were reported at the net amount which could be realized from their disposal within a short period of time (operationally one operating cycle) after the balance sheet date. Net amount is the selling price less disposition costs including tax effects. Liabilities are reported at the amount for which they could be settled shortly after the balance sheet date. The derivation of income statement items will be defined as they are discussed below.

The conventional and revised balance sheets are shown in Exhibit 1, pages 216-217. The only items modified were inventory, fixed assets, other assets, long-term notes, and stockholders' equity. Two new items, liability for stock options and additional exit value due to tax carryforwards, appear on the revised statements. (The receivables and other liabilities would have been modified if the discounting operation were being performed.)

³ "It is my opinion that realistic market prices are not nearly so widespread as would be necessary if your theory were to be adopted." Comments of William W. Wernitz, on Robert R. Sprouse and Maurice Moonitz. "A Tentative Set of Broad Accounting Principles for Business Enterprise," *Accounting Research Study No. 3* (American Institute of Certified Public Accountants, 1962), p. 81.

"It appears to me, therefore, that either there are no markets for most of these goods (accounts receivable, raw materials, work in process, finished goods, and plant and equipment) or the firm is active on the buying side of the market and really has no contact with the selling side." Discussion by Carl L. Nelson, on R. J. Chambers, "The Foundations of Financial Accounting," *Berkeley Symposium on the Foundations of Financial Accounting* (School of Business Administration, University of California, Berkeley, 1967), pp. 51-52.

"This must be a very limited per cent of the total assets we are talking about [that have readily determinable market values]. It must be a fraction of one per cent." *The Measurement of Property, Plant and Equipment in Financial Statements* (Graduate School of Business Administration, Harvard University, 1964), p. 51.

"If Ross could be convincing on this point [that the problem areas are minor], it would go a long way toward persuading those of us who can see the merit of current value statements, but doubt whether they can be achieved as easily as he [Ross] suggests." Discussion by Paul Kircher, on Howard I. Ross, *op. cit.*, p. 97.

"My preference for current cost of replacement over sales prices is based in large measure in the belief the former is more readily determinable and more objective." Discussion by Charles T. Zlatkovich, on R. J. Chambers, *op. cit.*, p. 49.

"The majority of those who are responsible for preparing financial statements are opposed to fair value accounting on the grounds of difficulty, impracticability, and the possibilities of manipulation," "Additional Views on Accounting Objectives." (Ernst & Ernst, May 1972), p. 15.

Inventory

The measurement procedure for inventory under an exit-value system can be defined in either of two ways:

1. The exit value of inventories is the amount that could have been generated by their immediate sale in the condition in which they existed at the balance sheet date. This is the procedure now favored by Chambers.⁴ It does not assume anything about the company's future action but merely reports the amount obtainable from immediate sale of inventory. Alternatively this procedure yields the immediate receipts which must be foregone to complete production and sale of the inventory.

The difficulties with this procedure are—

(a) For most work-in-process and many raw materials inventories, the immediate exit value is zero. This may not provide useful information to the statement reader. This is a conceptual rather than practical difficulty since the unit prices can be determined and aggregate prices can be derived by extension.

(b) The immediately realizable price of finished goods inventory may be impossible to determine because the market is saturated. If the company could have sold its finished goods at the usual price on or before the balance sheet date, it would probably have done so. Therefore, the possession of finished goods at the balance sheet date is partial evidence that they could not be sold at the usual price. It would not then be valid to compute the exit value of finished goods as the unit market price times the number of units held. The proper exit value under this procedure would be the amount that could be received if the entire finished goods inventory were sold immediately after the balance sheet date. This would require determination of the effect on market price of the company's decision to sell all finished goods. This will, in general, be a very difficult determination.

This procedure could have been applied to the raw materials and work-in-process inventories of X Company. The resulting exit value for raw materials would have had an exit value of zero. Since the output of X Company is highly specialized, a large proportion of finished goods would probably have had no exit value. An attempt to determine the exit value of finished goods by this procedure would have yielded an estimate of highly questionable validity.

2. The exit value of inventories is the difference between cash receipts from future sales and costs of completion and sale, all discounted to the balance sheet date.⁵ This procedure assumes that the company will continue its present operations long enough to complete the normal processing of raw materials and work-in-process inventories and will hold the finished goods until sale at normal prices. The discount rate used would be the

⁴ R. J. Chambers, "Second Thoughts on Continuously Contemporary Accounting," *Abacus* (September 1970), pp. 53-54.

⁵ Although this procedure is similar to the discounted cash flow method of valuing inventories, it is used in the exit-value system since the time to disposal was limited to one operating period.

Exhibit 1

Balance Sheets

	December 31, 1970		December 31, 1971	
	<u>Historical Cost</u>	<u>Exit Value</u>	<u>Historical Cost</u>	<u>Exit Value</u>
Assets				
Current Assets:				
Cash	\$ 36,288	\$ 36,288	\$1,958,494	\$1,958,494
Accounts receivable	3,584,150	3,584,150	1,761,479	1,761,479
Tax refund	0	0	1,295,673	1,295,673
Inventory (pp. 215, 218-219)*	2,548,674	2,548,674	3,085,922	3,091,854
Prepaid expense	129,254	129,254	125,923	125,923
Total Current Assets	<u>\$6,298,366</u>	<u>\$6,298,366</u>	<u>\$8,227,491</u>	<u>\$8,233,423</u>
Fixed Assets:				
Land (pp. 219-220)	\$ 100,021		\$ 100,021	
Building (pp. 219-220)	947,773	\$1,072,264†	931,816	\$1,049,358†
Equipment (pp. 220-221)	212,691	100,547†	264,603	132,072†
Total Fixed Assets	<u>\$1,260,485</u>	<u>\$1,172,811</u>	<u>\$1,296,440</u>	<u>\$1,181,430</u>
Other Assets:				
Patents (pp. 221-222)	1,330	638†		
Deferred compensation	13,153	13,153	4,793	4,793
Production development expense (pp. 221-222)	300,059	0		
Additional exit value due to unabsorbed tax carryforwards (pp. 222-223)	0	0		119,729
Total Assets	<u>\$7,873,393</u>	<u>\$7,484,330</u>	<u>\$9,528,724</u>	<u>\$9,539,375</u>

normal internal rate of return earned on the product. The figure resulting from the computation will be an estimate of cost plus that part of the normal profit earned by the balance sheet date. As an example of this procedure consider the following situation:

<u>Date</u>	<u>Cost incurred</u>	<u>Collection</u>
Nov. 30	\$10	
Dec. 31	7	
Jan. 31	8	
May 31	15 (point of sale)	
June 30		\$41.71

If the internal rate of return is estimated as 1 per cent per month, the inventory at December 31 would be \$17.10 computed directly as follows:

Collection discounted to December 31	
\$41.71 x 1.01 ⁻⁶	\$39.29
Costs discounted to December 31	
\$15 x 1.01 ⁻²	(14.27)
\$ 8 x 1.01 ⁻¹	(7.92)
	<u>\$17.10</u>

The first step in this measurement procedure would be determination of the future sales revenue which will be received on sale of all products including those resulting from processing of the raw materials and work-in-process inventories. Unfortunately, in the case of X Company this sales revenue could not be determined because the final products which would result from processing of raw materials and work-in-process inventories could not be determined.⁶ Because most of the materials and sub-assemblies could be used in many positions in the larger assemblies, the number of possible combinations of finished goods which would be produced from the existing combination of materials and work-in-process was very large and not determinable. Therefore procedure 2 could not be applied *directly*. Instead an alternative procedure which leads to the same result was developed. Exit value was measured by accumulation of past cash flows plus interest charged at the internal rate of return for the normal length of time which must have passed between date of flow and balance sheet date.⁷ Using the data from the example above, the alternative procedure would also result in a measurement of \$17.10:

⁶ Since the alternative measurement method which will be described would be difficult to apply to a straight merchandising firm, it should be pointed out that this difficulty would not exist when measuring the inventory of a merchandising firm.

⁷ The correspondence of the direct and surrogate measures is derived in the Appendix.

Costs plus imputed interest to December 31	
\$10 x 1.01 ¹	\$10.10
\$ 7 x 1.01 ⁰	7.00
	<u>\$17.10</u>

This measurement procedure was followed except that the interest calculation was not performed because of the instruction to omit discounting operations. The charging of interest could have been performed without difficulty since X Company maintains computerized inventory records. It should be emphasized that this is an alternative way of measuring exit value, not an adoption of another system.

Except for the use of historical cost depreciation, the Company's inventory valuation system yields a measurement which closely approximates current replacement cost. Therefore, the only adjustment necessary for inventory was a conversion from historical cost depreciation to exit-value depreciation to be charged to inventory. (Computation of exit-value depreciation will be discussed below.)

Since the adjustment of the beginning inventory would have required measurement of the exit value of fixed assets at December 31, 1969, and since the information and the manipulation (of that information) required to adjust the December 31, 1970 inventory were similar to the information and computations used for the adjustment of the December 31, 1971 inventory, it was felt that adjustment of the beginning inventory was not necessary to achieve the purpose of this study.

To adjust ending inventory, the difference between exit-value depreciation and historical cost depreciation (\$27,337) was added to manufacturing overhead.⁸ A new overhead rate was computed and applied to ending inventory. The difference in ending inventory measurements after adjustment for excess over tax basis (see footnote 9) was \$5,932 or about 0.2 per cent.

Fixed Assets and Depreciation

Land and Building. The measurement of the exit value of the land and building was made easier by the existence of a valid offer for the land and building during August 1971. The price which could have been received for these assets was \$1,200,000 (\$1,000,000 for land, \$200,000 for building). This amount was reduced by the amount of the increase in tax liability which

⁸ Explanation of the differences in depreciation under the two approaches is presented as follows:

	Depreciation		
	Historical Cost	Exit Value	Difference
Land and building	\$20,430	\$27,379	\$ 6,949
Equipment	35,095	55,483	20,388
Total	<u>\$55,525</u>	<u>\$82,862</u>	<u>\$27,337</u>

would have occurred had the sale been made.⁹ These amounts (\$127,736 and \$150,642) could have been presented as liabilities, but were deducted from the asset price so that (1) exit-value depreciation can be computed more simply and (2) the net amount which could be realized from disposal can be determined easily from the balance sheet.¹⁰

Exit-value depreciation was computed as the decline in exit value occurring during the year. For the land and building this amounted to \$27,379 as compared to the historical cost depreciation of \$20,430 on the building only.¹¹

Equipment. The exit value of X Company's equipment was measured in three different ways. The largest group of equipment (approximately 60 per cent of book value, Exhibit 2, opposite) was measured by obtaining direct quotations from used-equipment dealers. This group was mainly electronic test equipment with some tools. These quotations were then compared with catalogs of other dealers. Since they were all closely grouped, indicating some validity, the maximum was chosen.

The second group of equipment (20 per cent of book value) was determined to be salable, but no direct quotations were solicited. The items in this group were mainly furniture and work benches. Used industrial furniture dealers indicated that the basic resale value of this type of used furniture ranged from 25 per cent to 15 per cent of current list price. Appraisal would have cost 5 per cent of appraised value. Therefore these items were measured by first computing their current cost new by application of a specific price index for metal products. This current cost new was then reduced to the percentage estimates obtained from the dealers.

The third group of equipment (20 per cent) was determined to be unsalable either because no used dealer would bother with it (steel shelves,

⁹ If the net proceeds which could be received from sale were greater than the tax basis (tax basis was different from book value for all fixed assets except land), it was assumed that the company's tax liability would be increased by sale of the asset. This increase was computed using capital gains or ordinary income (for taxable income over \$25,000) rates where each would apply. (Most depreciable assets were subject to depreciation recapture.) This amount was deducted from the estimated amount which could be received from sale to compute exit value.

If the net proceeds which would be received from sale were less than the tax basis, it was assumed that the company's tax liability would be decreased (computed in the same manner as the increase due to available gains) by sale of the asset. This difference was added to the net proceeds from sale to arrive at exit value.

¹⁰ Any costs which would be incurred upon disposal of the asset due to contractual obligations either to hold the asset or continue certain phases of business or to retain certain employees would be deducted from the asset price also. None of these conditions existed in relation to X Company's assets.

¹¹ Land differs from other fixed assets only in that it is presumed to have indefinite life. Thus, there has been presumed to be no way of allocating any part of the cost of land to individual periods. However, in an exit-value sense depreciation for a period is the cost of holding and using an asset during the period. In this sense there is a cost of holding and using an asset during the period. This cost is best measured as the decline in exit value during the period and can be called depreciation for convenience, although some accountants may object to the idea of negative depreciation (or appreciation).

etc.) or because it (special test equipment used in research and development of new products) was so specialized that the demand was not stable enough to establish a market value. These items were assigned a resale price of zero. The exit value was not zero because disposal of an item with a tax basis greater than zero would yield a refund or a reduction of tax liability.

Depreciation of equipment was \$55,483:	
December 31, 1970 exit value	\$100,547
Plus purchases during year	<u>87,008</u>
	\$187,555
Less December 31, 1971 exit value	<u>132,072</u>
	<u>\$ 55,483</u>

This was over 50 per cent greater than historical cost depreciation of \$35,095.

Other Assets

Patent and Product Development Expense. Although the patents shown at \$1,330 on the December 31, 1970 unadjusted balance sheet had no resale price, the exit value is \$638 because disposal of this item, which has a tax basis of \$1,330, would yield a refund or reduction of tax liability.

Exhibit 2 Equipment Grouped by Measurement Method

December 31, 1970

<u>Method</u>	<u>Conventional Book Value¹</u>	<u>%</u>	<u>Market Price</u>	<u>Exit² Value</u>	<u>% by Exit Value</u>
Index	\$ 40,838	19.2	\$15,365	\$ 21,317	21.2
Direct quotation	116,567	54.8	51,538	62,854	62.5
Zero market value	55,286	26.0	0	16,376	16.3
Total	<u>\$212,691</u>	<u>100.0</u>	<u>\$66,903</u>	<u>\$100,547</u>	<u>100.0</u>

December 31, 1971

Index	\$ 42,806	16.2	\$15,525	\$ 20,974	15.9
Direct quotation	168,375	63.6	81,477	96,576	73.1
Zero market value	53,422	20.2	0	14,521	11.0
Total	<u>\$264,603</u>	<u>100.0</u>	<u>\$97,002</u>	<u>\$132,072</u>	<u>100.0</u>

¹ The figures in the Conventional Book Value (cost less accumulated historical cost depreciation) column are the conventional measurements related to assets whose exit values were measured by the indicated methods. These figures are presented to allow better evaluation of the results of application of these methods of estimating exit value as compared to conventional accounting measurement.

² Exit value of some items was greater than market price because sale of an item for an amount less than its tax basis would yield a refund or reduction of tax liability.

The product development expense shown on the beginning conventional balance sheet also had no resale price. However, the product development expense had already been expensed for tax purposes and had no tax basis. Therefore, the exit value is zero because disposal of this asset would yield no tax benefit.

Additional Exit Value Due to Tax Carryforwards. X Company had an unabsorbed tax loss carryforward of over \$1,000,000 at December 31, 1971. The existence of this loss carryforward means that the net of tax computations of exit values of certain assets and liabilities must be adjusted.¹²

The adjustment was not applied directly to the items involved but was reported, instead, as a separate asset on the balance sheet. There are several reasons for this procedure:

1. The adjustment is not tied to the particular asset but rather is a result of previous losses suffered by the entity. Therefore both the asset and the loss carryforward must exist for the additional exit value to exist.

2. If this procedure were not followed, the current cash equivalent of an asset would vary depending on the taxable income of the entity. This result seems neither reasonable nor useful especially in light of (1).

3. The amount of the additional exit value (which is in some respects a valuation of the loss carryforward) should be disclosed separately. If the two figures were not reported, a reader would not know the valuation of the assets exclusive of the loss carryforward; that is, the question "How much of the exit value of the assets will remain after the loss carryforward is absorbed by profitable operation?" can only be answered if the loss carryforward and assets are reported separately.

The measurement of the additional exit value due to tax carryforwards is limited to the lower of (1) the maximum benefit possible from the carryforward and (2) the benefit which could be realized by offsetting the carryforward against the gains expected to be realized on the sale of the assets. The reason for limitation (1) is obvious. Limitation (2) is needed because the amount described there represents the maximum benefit the management could realize by action at the balance sheet date. The only course which would generate a greater amount from the carryforward would be to sell the firm itself. This course is not considered relevant because the management can not take it, and the selection of this course by the owners would not

¹² Thus, the exit value of the asset would be equal to the proceeds from the sale. The previously computed tax effects of disposal (see footnote 9) are appropriate whenever a subject firm does not have an unallocated tax loss carryforward on the balance sheet date and available losses do not exceed taxable income in the carry-back period because losses from sale of assets immediately following the balance sheet date could at least result in refund of prior tax payments. Since this was the case for the beginning balance sheet, no further adjustment was made. However, the company was in a tax loss carryforward situation at December 31, 1971. Furthermore, the carryforward was greater than the sum of all potential gains available at that date. Since gains from sales immediately following the balance sheet date would be offset against the carryforward and losses would not result in a refund, sale of assets for gain or loss would have no effect on the tax liability of the company.

affect the financial position of the entity (except by possible creation of a new entity if a merger was effected).

Liabilities

Notes Payable. One of the long-term notes payable had a prepayment penalty of \$2,750 which would have had to be paid to satisfy the liability at December 31, 1971. Thus, the notes payable account was increased by \$2,750, and then reduced by \$1,320 to reflect the tax effect.

Liability for Stock Options and Compensation Expense. X Company had a stock option plan for key employees in operation at each balance sheet date. Holders of exercisable options could, by paying the option price, receive shares of X Company common stock. Assuming that the option price was lower than the market price, X Company would have to either buy shares at market price and resell for a lower amount or issue shares (either unissued or treasury) for an amount lower than could have been received on the open market. In either case X Company would incur a sacrifice equal to the difference between market price and option price. Since X Company could at any time limit its liability under the option plan to the number of options exercisable at that time, the liability is computed as the difference between market price (average of high and low on each January 2) and option price for options which had option prices lower than the current market price and were exercisable at the balance sheet date. This amounted to \$149,112 at December 31, 1970 and \$8,664 for December 31, 1971.¹³

The compensation expense is the ending liability less the beginning liability plus the amount capitalized by exercise of options during the year:¹⁴

December 31, 1971 liability	\$ 8,664
December 31, 1970 liability	149,112
	<u>(\$140,448)</u>
Capitalized by exercise	185,428
Compensation expense	<u>\$ 44,980</u>

Deferred Income Taxes. Under generally accepted accounting principles, the deferred income taxes account contains the adjustment necessitated by the difference between conventional book value and tax basis. Under

¹³ When an option becomes exercisable, the company commits itself to accept the exercise price in full payment for the stock. Thus, the company agrees to give up the difference between market price and exercise price. This liability could be recorded on the date the options become exercisable and then adjusted at the end of the year. The simpler procedure that was followed was to simply compute the liability for all exercisable options at end-of-year market price.

¹⁴ The expense is the sum of the liability at the date the options become exercisable, the adjustment to liability related to these options from that date to the end of the year, the adjustment to the liability related to options exercised from beginning of the year to exercise date, and the adjustments to options exercisable throughout the year from beginning to end. (This procedure would also automatically adjust for options which become exercisable and are exercised during the year.)

the exit-value presentation used here, this function is performed by deducting from the specific asset the tax liability related to the difference between selling price and tax basis. Therefore the deferred income tax is not used under this presentation scheme. If a different presentation scheme had been used, the liability presented would have been \$92,982 at December 31, 1970 and 0 (because of the unabsorbed loss carryforward) at December 31, 1971.

This discrepancy in presentation of the difference between book value and tax basis makes it more difficult to evaluate the differences in measurement of specific assets because the unadjusted statements present assets before considering tax bases, and the exit-value statements present individual assets after adjustment for the difference between selling price and tax basis. Since the amount shown as deferred income taxes cannot be related to specific assets, the comparison of unadjusted and exit-value measurements (if desired) can best be made by adding back the deductions for tax liability (shown in footnotes to Exhibit 1) to the exit-value measurements of specific assets. (For a more detailed before-tax adjustment comparison of conventional and selling price measurements of equipment, compare the Conventional Book Value and Market Price columns in Exhibit 2).

Stockholders' Equity

Contributed Capital. The amount shown as contributed capital would normally be the amount invested in the company adjusted for changes in the general price level. No distinction is made between par value and additional paid-in capital. Although the segregation could be made, it would mean little after the price level adjustment. Since the price level adjustment was not made, the revised beginning contributed capital is the same as the conventional.¹⁵

The ending contributed capital is higher by the amount of the liability for stock option, which was capitalized upon exercise of some of the options. The assumed entry was—

Cash	\$ 52,050	
Liability for stock option	185,428	
Contributed capital		\$237,478

instead of the conventional entry—

Cash	\$ 52,050	
Contributed capital		\$ 52,050.

Retained Earnings. The revised retained earnings is simply a residual. Total stockholders' equity is computed as assets less liabilities, and retained earnings is total stockholders' equity less contributed capital.

¹⁵ The treasury stock could be shown separately, but is more consistent when shown as a return of contributed capital.

The Income Statement

The revised income statement (Exhibit 3, below) required changes in cost of sales and general administrative expense plus the addition of four new items. Although it can be stated in a pure exit-value sense that the cost of sales equals the sales revenue, gross profit under this interpretation would be zero with all "gross profit" getting into the income statement as holding gains on inventory. Since this may obscure useful information, a better definition of cost of goods sold might be—Beginning inventory (at exit value at beginning of fiscal year adjusted for change in factor prices to date of sale) plus costs of production (at rates current to the time of sale) less ending inventory (at rates current to the end of the year—not the amount which appears on the balance sheet). Holding gain would be the adjustment to beginning inventory plus the adjustment to costs incurred plus the difference

Exhibit 3
X Company
Income Statements
For the Year Ended December 31, 1971

	<i>Unadjusted</i>	<i>Exit Value</i>
Sales	\$3,994,256	\$3,994,256
Cost of Sales (pp. 225-226)*	2,938,542	3,039,636
Gross Margin	<u>\$1,055,714</u>	<u>\$ 954,620</u>
Period Expenses:		
General and administrative (p. 226)	619,170	627,572
Research and development	1,046,706	1,046,706
Marketing	2,011,414	2,011,414
Corporate general and administrative	331,260	331,260
Interest	158,553	158,553
Special items (pp. 221-222)	301,389	638
Adjustment to additional exit value due to tax carryforwards (p. 226)		(119,729)
Loss of flexibility due to long-term loan (p. 226)		1,430
Compensation expense (p. 223)		44,980
Gain on holding inventory (pp. 225-226)		(88,092)
	<u>\$4,468,492</u>	<u>\$4,014,732</u>
Income (Loss) before Taxes	(\$3,412,779)	(\$3,060,112)
Income Tax	(1,626,300)	(1,626,300)
Net Income (Loss)	<u>(\$1,786,478)</u>	<u>(\$1,433,812)</u>

* Page numbers in parentheses refer to text discussion of those items adjusted.

between ending inventory at exit value and ending inventory at cost. The adjustment, using the latter interpretation, was computed by first segregating the holding gains which had been buried in cost of sales by the company's practice of putting manufacturing costs into inventory at actual cost and removing ending inventory at current replacement cost. The second part of the adjustment was the change in depreciation from historical cost to exit value. The resulting figure is an underestimation of cost of sales because of the omission of the accumulated interest charges from beginning inventory. They would be more meaningful if the interest had been charged.

The adjustment to general and administrative expense was simply the allocated portion of the increased depreciation charged under exit value.

The adjustment to additional net realizable value due to tax carryforwards simply indicates an additional effect upon income of the loss. It is so closely related to the income tax refund that it could have been placed with the tax refund. The loss of flexibility expense results from the firm's increased cost of altering its capital structure if it wishes to do so. Compensation expense was discussed under liabilities.

Cost

Revision of existing statements took approximately 150 man-hours of which at least 60 were spent deriving information which would be available under an accounting system designed for exit-value statements, and another 30 were clerical. No costs were incurred for the direct quotations, although appraisal of the furniture or real estate would have required some expense. Alternatively some time would probably have been saved if many companies were preparing exit-value statements, since market information would become more readily available.

Auditing Exit-Value Statements

There is no apparent reason why exit-value accounting statements could not be effectively audited. There are only two possible areas which would be more difficult than auditing conventional statements.

1. The obvious problem of confirming resale prices of fixed assets. In many cases this problem could be handled by the use of published information or employment of an appraiser (possibly at three- to five-year intervals and/or appraising a sample of assets). If neither of these methods is convenient, the auditor should have little trouble locating experts such as used asset dealers, specialists, etc. It should be pointed out that the researcher was not an expert in electronics equipment.

2. The determination of the internal rate of return for inventory measurement normally depends on management estimates. The auditor could, however, in the great majority of cases validate management's estimates by referring to records indicating the rate of return experienced by the client on the same or similar products.

To compensate for the additional difficulties, the auditor would be relieved of any problems related to allocation of fixed assets (depreciation

methods, life, etc.) or the future benefits to be derived from such items as rearrangement cost, product development costs, etc.

Conclusions

Preparation of two exit-value balance sheets and an exit-value income statement for X Company demonstrated that in this case readily available market prices could be determined at very little cost for the land and building and most of the equipment. Market prices for the rest of the equipment (mainly metal furniture) were estimated again at nominal cost by use of general guidelines suggested by used furniture dealers. A more accurate estimate for these items might have been obtained by employing an appraiser. However, the cost of appraisal of these items would have been significant (five per cent of appraised value) and would probably be incurred every three to five years if at all. This procedure of relatively infrequent appraisals should yield accurate estimates because, according to the used furniture dealers, the resale price is determined mainly by the type and quality of the asset rather than the age. Thus, barring major changes in the used asset market, an appraisal of a particular item (possibly adjusted by a specific price index) should be valid for several years.

Measurements of items other than fixed assets were readily computed at nominal cost.¹⁶ The only way management would have had any effect on the exit-value figures reported would have been solicitation of special offers for particular assets. Although this activity could be called manipulation, the economic fact remains that management could realize the offered amount.¹⁷ Further the effect of these offers could easily be segregated. Other than the solicitation of special offers, management cannot manipulate the exit-value figures because the measurements are taken from the markets rather than management estimates. This provides less opportunity for manipulation of profit figures than is available under conventional accounting procedures (alternative depreciation methods, sale of particular fixed assets to realize an available gain or loss, etc.).

The conclusion must be reached that critics of exit value who base their opposition on lack of feasibility of implementation will find no evidence to support their position in this case. Preparation of exit-value statements for X Company was possible at a reasonable cost.

Appendix

The direct measure of the exit value of an inventory item at time n' would be expressed as:

¹⁶ This cost would have been increased, but no additional difficulties imposed, if the discount and price level adjustments had been performed. The additional cost of these adjustments should not be counted as incremental cost of exit value since most academicians and many practitioners believe these adjustments should be applied to historical cost statements.

¹⁷ This assumes the accountant is satisfied with the validity of the offer(s).

$$EV = \sum_{i=n'+1}^N \frac{CF_i}{(1+r)^{i-n'}} \quad (1)$$

where EV = exit-value measurement at time n'

CF_i = cash or cash equivalent flow related to the product at the end of period i under a normal production and holding schedule. (The periods may be as short as desired.) CF_N would be receipt of full or last partial payment

N = normal number of periods between purchase of raw materials and receipt of cash from sale

r = normal internal rate of return which is the solution of

$$\sum_{i=0}^N \frac{CF_i}{(1+r)^i} = 0. \quad (2)$$

The indirect measurement can be expressed as

$$EV = \sum_{i=0}^{n'} CF_i (1+r)^{n'-i}.$$

This amount can be shown to be equivalent to EV in equation (1). Rearranging equation (2):

$$\sum_{i=0}^{n'} \frac{CF_i}{(1+r)^i} + \sum_{i=n'+1}^N \frac{CF_i}{(1+r)^i} = 0$$

$$\text{or} \quad \sum_{i=n'+1}^N \frac{CF_i}{(1+r)^i} = - \sum_{i=0}^{n'} \frac{CF_i}{(1+r)^i}.$$

Multiplying by $(1+r)^{n'}$

$$\sum_{i=n'+1}^N \frac{CF_i}{(1+r)^{i-n'}} = - \sum_{i=0}^{n'} CF_i (1+r)^{n'-i}.$$

Substituting from equation (2):

$$EV = - \sum_{i=0}^{n'} CF_i (1+r)^{n'-i} = EV'.$$